



# UNITED STATES PATENT AND TRADEMARK OFFICE

m.f

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/855,786

05/15/2001

Kazuhiko Maejima

7217/64554

9099

530

7590

10/18/2006

LERNER, DAVID, LITTENBERG,  
KRUMHOLZ & MENTLIK  
600 SOUTH AVENUE WEST  
WESTFIELD, NJ 07090

EXAMINER

AU, GARY

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/855,786	<b>Applicant(s)</b> MAEJIMA ET AL.	
	<b>Examiner</b> Gary Au	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/31/2006 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,774,194 (Armbruster).

Considering claim 1, Armbruster teaches that a tuner apparatus (figure 1) comprising:

a mixer circuit (the first mixing stage M1 – figure 1, col. 2 lines 17-45) for using first oscillation signals to upwardly frequency-convert terrestrial TV broadcast signals or CATV broadcast signals supplied from a terrestrial TV broadcasting receiver or a CATV broadcasting receiver (the terrestrial antenna 6 – figure 1, col. 2 lines 15-22) into signals (first mixing oscillator 13 – figure 1, col. 2 lines 27-38) that fall within an occupied bandwidth of intermediate-frequency signals (470-800 MHz, col. 2 lines 17-22) of satellite TV broadcasting receiver, said mixer circuit outputting first intermediate-frequency signals (col. 2 lines 17-22);

a quadrature detector circuit (the mixing stage M2 – figure 1, col. 2 line 53 – col. 3 line 10) to which said intermediate-frequency signals of said satellite TV broadcasting signals and said first intermediate-frequency signals from said mixer circuit are inputted (col. 2 line 62 – col. 3 line 18); and

an oscillator circuit (the oscillator 17 – figure 1) for supplying second oscillation signals of the occupied bandwidth of said intermediate-frequency signals of said satellite TV broadcasting signals to said quadrature detector circuit (col. 2 lines 38-45, lines 53-65);

wherein when said tuner apparatus receives said satellite TV broadcasting signals (col. 2 lines 8-11), said oscillator circuit supplies said second oscillation signals (the oscillator 17 – figure 1, col. 2 lines 38-45) of the occupied bandwidth (470-800 MHz, col. 2 lines 17-22) and of a predetermined phase to said quadrature detector

circuit where said satellite TV broadcasting intermediate-frequency signals supplied thereto are demodulated into base band signals by using said second oscillation signals (col. 2 lines 17-22); and

wherein when said tuner receives said terrestrial TV broadcast signals or said CATV broadcast signals (antenna input 7 – figure 1, col. 2 lines 15-22), said oscillator circuit supplies (the oscillator 17 – figure 1, col. 2 lines 38-45) oscillation signals to said quadrature detector circuit after said first intermediate-frequency signals supplied thereto have been frequency-converted into second intermediate-frequency signals by using said first oscillation signals (col. 2 lines 17-22).

Considering claim 2, Armbruster teaches that an intermediate-frequency amplifier disposed between said satellite TV broadcasting receiver and said quadrature detector circuit (amplifier 5 – figure 1, col. 2 lines 8-15).

Considering claim 4, Armbruster teaches a tuner apparatus (figure 1) comprising:  
a satellite TV broadcasting receiver for receiving satellite TV broadcast signals and outputting satellite TV broadcasting intermediate-frequency signals (the satellite receiving dish 1 – figure 1, col. 2 lines 8-15);

a terrestrial TV broadcasting receiver or CATV broadcasting receiver for receiving terrestrial TV broadcast or CATV broadcast signals (the terrestrial antenna 6 – figure 1, col. 2 lines 15-22),

a mixer circuit (the first mixing stage M1 – figure 1, col. 2 lines 17-45) for using first oscillation signals to upwardly frequency-convert said terrestrial TV broadcast signals or said CATV broadcast signals into signals within the bandwidth of said satellite TV broadcasting intermediate-frequency signals, said mixer outputting first intermediate-frequency signals (col. 2 lines 17-22);

a quadrature detector circuit (the mixing stage M2 – figure 1, col. 2 line 53 – col. 3 line 10) to which said intermediate-frequency signals of said satellite TV broadcasting signals and said first intermediate-frequency signals from said mixer circuit are inputted (col. 2 line 62 – col. 3 line 18);

a first oscillator circuit (the mixing oscillator 13 – figure 1, col. 2 lines 23-38) for supplying said first oscillation signals to said mixer circuit (col. 2 lines 53-60); and

a second oscillator circuit (the oscillator 17 – figure 1, col. 2 lines 38-45) for supplying second oscillation signals of the occupied bandwidth of said intermediate-frequency signals of said satellite TV broadcasting signals to said quadrature detector circuit (col. 2 line 62 – col. 3 line 18);

wherein when said tuner apparatus receives said satellite TV broadcasting signals (col. 2 lines 8-11), said second oscillator circuit (the oscillator 17 – figure 1, col. 2 lines 38-45) supplies said second oscillation signals of the occupied bandwidth (470-800 MHz, col. 2 lines 17-22) and of a predetermined phase to said quadrature detector circuit where said satellite TV broadcasting intermediate-frequency signals supplied thereto are demodulated into baseband signals by using said second oscillation signals (col. 2 lines 17-22); and

wherein when the tuner apparatus receives terrestrial TV broadcast signals or said CATV broadcast signals (antenna input 7 – figure 1, col. 2 lines 15-22), said second oscillator circuit (the oscillator 17 – figure 1, col. 2 lines 38-45) supplies said second oscillation signals to said quadrature detector circuit after said first intermediate-frequency signals supplied thereto have been frequency-converted into second intermediate-frequency signals by using said oscillation signals (col. 4 lines 21-23).

Considering claim 5, Armbruster teaches that an intermediate-frequency amplifier disposed between said satellite TV broadcasting receiver and said quadrature detector circuit (amplifier 5 – figure 1, col. 2 lines 8-15).

Considering claim 6, Armbruster teaches that an intermediate-frequency filter (IF filter 14 – figure 1, col. 2 lines 23-38) disposed between said satellite TV broadcasting receiver and said quadrature detector circuit (col. 2 lines 23-38).

Considering claim 7, Armbruster teaches that an input bandpass filter (IF filter 14 – figure 1, col. 2 lines 23-38) disposed after said satellite TV broadcasting receiver or after said CATV broadcasting receiver (col. 2 lines 23-38).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,774,194 (Armbruster) as applied to claims 1 and 4 above, and further in view of US Patent No. 4,326,295 Matsumoto et al. (Matsumoto).

Considering claim 3, Armbruster teaches when said tuner apparatus receives said satellite TV broadcasting signals (col. 2 lines 8-11), said intermediate-frequency signals obtained by receiving the satellite TV broadcasting signals are supplied through said mixer circuit (the first mixing stage M1 – figure 1, col. 2 lines 23-32) to said quadrature detector circuit but fails to disclose said mixer circuit operates as said intermediate-frequency amplifier.

In an analogous art, Matsumoto teaches a mixer that operates as intermediate-frequency amplifier (numeral 9 – figure 1, col. 2 lines 57-64).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Armbruster's system to include a mixer that operates as intermediate-frequency amplifier, as taught by Matsumoto, for the advantage of easier assembly.

Considering claim 8, Armbruster teaches when said tuner apparatus receives said satellite TV broadcasting signals (col. 2 lines 8-11), said intermediate-frequency signals obtained by receiving said satellite TV broadcasting are supplied through said mixer circuit (the first mixing stage M1 – figure 1, col. 2 lines 23-32) to said quadrature



Art Unit: 2617

detector circuit but fails to disclose said mixer circuit operates as said intermediate-frequency amplifier.

In an analogous art, Matsumoto teaches a mixer that operates as intermediate-frequency amplifier (numeral 9 – figure 1, col. 2 lines 57-64).

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Armbruster's system to include a mixer that operates as intermediate-frequency amplifier, as taught by Matsumoto, for the advantage of easier assembly.

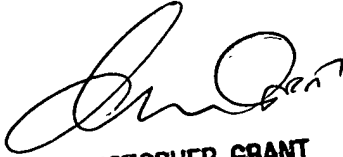
### ***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary Au whose telephone number is (571) 272-2822. The examiner can normally be reached on 8am-5pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christ Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GA



CHRISTOPHER GRANT  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600